

MCF300.06IS

INSULATED FAST RECOVERY DIODE MODULE

Output Current **300 A**

Blocking Voltage **600 V**

| V_{RRM} [V] | V_{RSM} [V] | V_{OUT} [V] | P/N |
|------------------|------------------|------------------|-------------|
| 600 | 700 | 190 | MCF300.06IS |
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| | | | |
| | | | |

Features

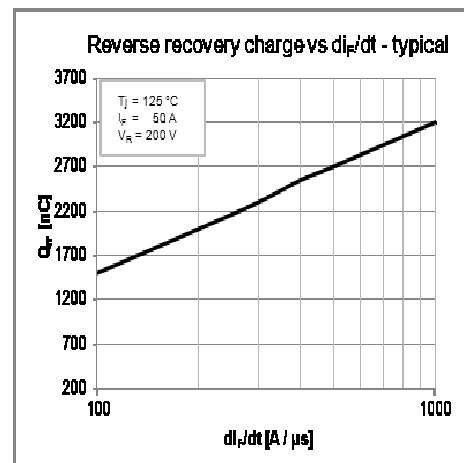
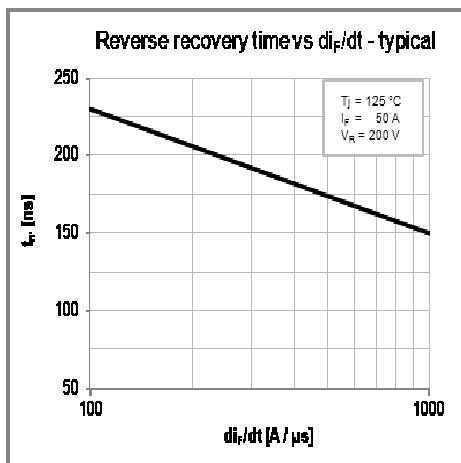
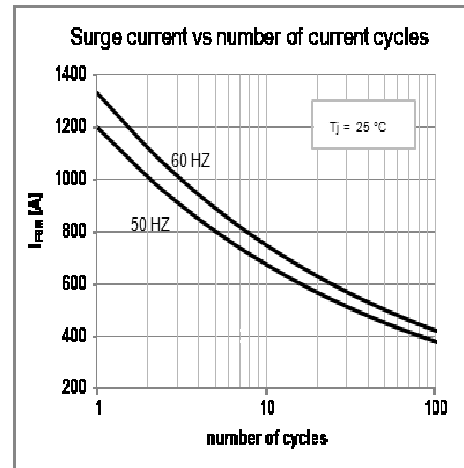
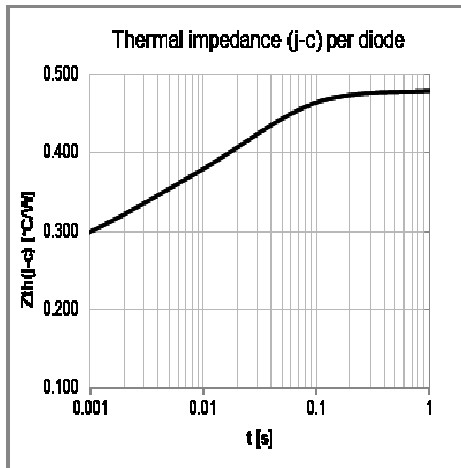
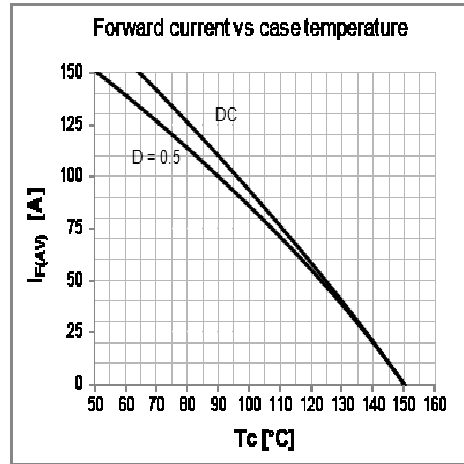
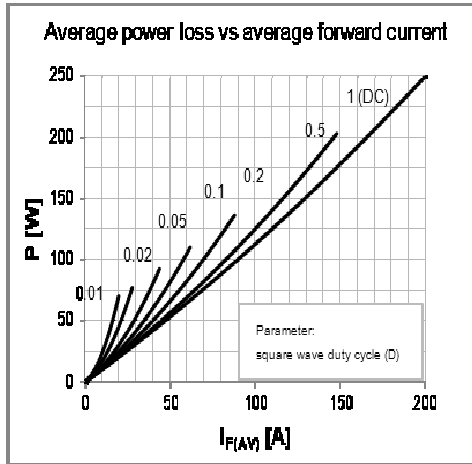
- Short recovery time
- Low switching losses
- Soft recovery behavior
- Electrically insulated case

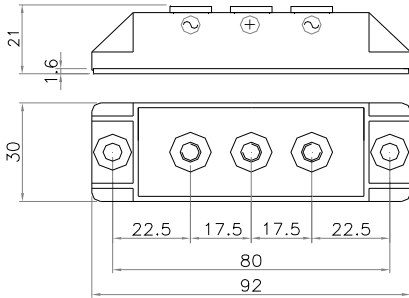
Applications

- Antiparallel diode for high frequency switching devices
- Free-wheeling diode in converters or motor controllers
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

| Diodes characteristics | | Conditions | Tj [°C] | Value |
|------------------------|---------------------------------------|--|---------|-----------------------|
| $I_{F(AV)}$ | Average forward current | $T_C = 51\text{ °C}$ | | 150 A |
| I_{FRM} | Repetitive forward current, max | Square wave, 20 kHz | | 300 A |
| I_{RRM} | Max repetitive peak reverse current | $V = V_{RRM}$ | 150 | 4 mA |
| $V_{F(TO)}$ | Threshold voltage | | 150 | 1 V |
| r_F | Forward slope resistance | | 150 | 1,3 mΩ |
| V_{FM} | Peak forward voltage, max | $I_F = 150\text{ A}$ | 150 | 1,43 V |
| I_{FSM} | Surge forward current | Half sine wave, 10 ms | 25 | 1200 A |
| I^2t | Max I^2t for fusing | | 25 | 7200 A ² s |
| C_T | Junction capacitance, typ | $V = V_{RRM}$ | 25 | 70 pF |
| Q_{rr} | Reverse recovery charge, typ | $I_F = 50\text{ A}$ | 125 | 2400 nC |
| I_{rr} | Reverse recovery current, typ | $V_R = 200\text{ V}$ | | 22 A |
| t_{rr} | Reverse recovery time, typ | $di_F / dt = 200\text{ A} / \mu\text{s}$ | | 210 ns |
| T_{jmax} | Operating junction temperature | | | -40 / 150 °C |
| $R_{th(j-c)}$ | Thermal resistance (junction to case) | DC operation | | 0,48 °C/W |

| Module characteristics | | Conditions | Value |
|------------------------|--|--|------------|
| I_{OUT} | Output current (center tap connection) | $T_C = 51\text{ °C}$ | 300 A |
| V_{INS} | RMS Insulating voltage | 50 / 60 Hz $t = 1\text{ s}$ ($i < 1\text{ mA}$) | 3600 V |
| V_{INS} | RMS Insulating voltage | 50 / 60 Hz $t = 60\text{ s}$ ($i < 1\text{ mA}$) | 3000 V |
| $R_{th(c-h)}$ | Thermal resistance (case to heatsink) | Mounting surface flat, smooth and greased | 0,100 °C/W |
| T_{stg} | Max storage temperature | | 150 °C |
| W | Weight | | 115 g |
| M_1 | Mounting torque, ± 15 % | | 5,5 N·m |
| | | | 48 lb·inch |
| M_2 | Terminal connection torque, ± 15 % | | 4,0 N·m |
| | | | 35 lb·inch |

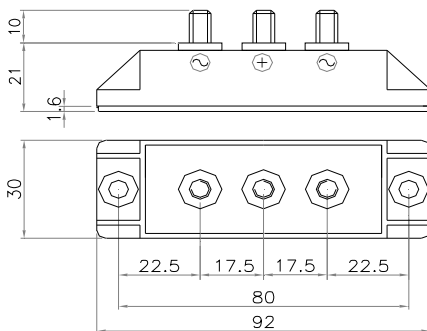



Fig.1 MCF300.06IS-SS6-FIX5-HP-P80-TA

Code:950003000029

MCF300.06IS-SS5-FIX5-HP-P80-TA

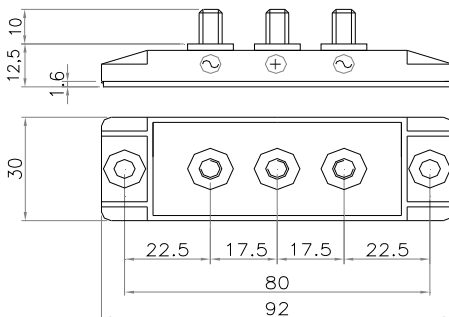
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Fig.2 MCF300.06IS-MM6x10-FIX5-HP-P80-TA

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MCF300.06IS-MM5x10-FIX5-HP-P80-TA

Code:950003000021


Fig.3 MCF300.06IS-MM6x10-FIX5-LP-P80-TA

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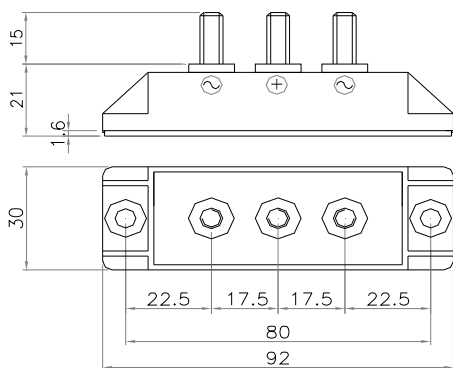
MCF300.06IS-MM5x10-FIX5-LP-P80-TA

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Power fix:
SS=Screw (M6 or M5)
MM=Bolt (M6 or M5)

Mounting fix:
FIX= Ø5,5

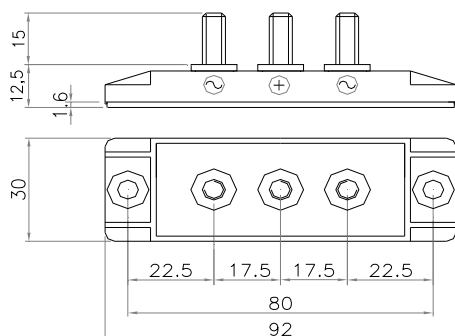
Profile:
HP=High Profile LP=Low Profile


Fig.4 MCF300.06IS-MM6x15-FIX5-HP-P80-TA

Code:950003000027

MCF300.06IS-MM5x15-FIX5-HP-P80-TA

Code:950003000023


Fig.5 MCF300.06IS-MM6x15-FIX5-LP-P80-TA

Code:950003000026

MCF300.06IS-MM5x15-FIX5-LP-P80-TA

Code:950003000022

Power fix:

SS=Screw (M6 or M5)

MM=Bolt (M6 or M5)

Mounting fix:

FIX= \varnothing 5,5

Profile:

HP=High Profile LP=Low Profile